WHAT IS CLAIMED IS:

1. An electric motor comprising a stator and a rotor, field windings on the stator for producing an AC magnetic field with a vector at successive angular positions around the axis of rotation of the motor when the windings are successively energized with single phase AC power, the rotor having a construction by which it increases the reluctance in the magnetic field when it has an angular orientation out of alignment with the magnetic field vector compared to its reluctance when it is aligned with the magnetic field vector whereby the rotor seeks to rotate in synchronization with the magnetic field vector produced by the field windings, the rotor construction having a diametral high reluctance area and relatively low reluctance areas on opposite sides of said diametral area.

2. An electric motor as set forth in claim 1, wherein said high reluctance area includes an air gap.

3. An electric motor as set forth in claim 2, wherein said air gap extends uninterrupted across the diameter of the rotor.

4. An electric motor as set forth in claim 3, wherein an electrically conductive non-magnetic body is disposed substantially throughout said air gap.

5. A controller circuit for an AC motor comprising a plurality of switches and/or amplifiers that generate separate power signals at respective outputs, each power signal having an AC frequency common with the other signals, the signals varying in amplitude in a cyclic manner corresponding to the speed of rotation of the rotor of the motor.